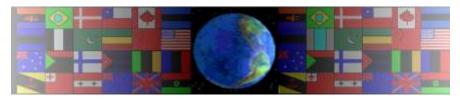
## **EXAMINATION PREPARATION**

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On behalf of The World Association of Technology Teachers

W.A.T.T.



World Association of Technology Teachers

This exercise can be printed and used by teachers and students. It is recommended that you view the website (www.technologystudent.com) before attempting the design sheet.

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## PRODUCT DESIGN REVISION - 1

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1. A number of materials are listed in the table below. Select four and complete the row. The first row has been completed for you. A number of materials are listed below the table.

TYPE OF MATERIAL	MATERIAL NAME - 1	MATERIAL NAME - 2	MATERIAL NAME - 3	MATERIALS NAME - 4
WOOD	MAHOGANY	OAK	BEECH	PINE
METAL				
PLASTIC				
PAPER/CARD				

ALUMINIUM	NEWSPRINT	POLYSTYRENE	STEEL	POLYETHYLENE				
COPPER	BRASS	DUPLEX BOARD	PERSPEX	ACRYLIC				
	CORRUG	ATED BOARD	FOIL LINED BOARD					
2. Select one of the materials.								
MATERIAL NAM	IE:							

## PROPERTIES OF MATERIALS

STRENGTH - The ability of a material to stand up to forces being applied without it bending, breaking, shattering or deforming in any way.

3. Describe a manufactured product made from this material.

TENSILE STRENGTH: The ability of a material to stretch without breaking or snapping.

ELASTICITY: The ability of a material to absorb force and flex in different directions, returning to its original position.

MALLEABILITY: The ability of a material to be reshaped in all directions without cracking.

PLASTICITY: The ability of a material to be change in shape permanently. EG. Casting molten metal

TOUGHNESS: A characteristic of a material that does not break or shatter when receiving a blow or under a sudden shock.

DUCTILITY: The ability of a material to change shape (deform) usually by stretching along its length.

HARDNESS: The ability of a material to resist scratching, wear and tear and indentation.

CONDUCTIVITY: The ability of a material to conduct electricity.

3 ? You may wish to consider the phys	ical properties of the material.	selected in question
4. Most materials degrade over time. W	/hat does degrade mean?	
5. Considering the material you selected to name and describe a finish that can be	I - how would you protect it against degrading over applied to its surface.	er time? You may wis
6. Materials are supplied in a range of sha	Ryan © 2009 World Association of Technology Teachers  apes, sections and sizes. A number of materials n of the way this type of material is supplied.	are listed below. Dra
METAL	GRANULE SHEET POWDER ROD	
WOOD	ROUGH SAWN PLAINED ALL ROUND MOULDING	
PAPER	INGOT SHEET SECTION FLAT STRIP	
PLASTIC	G/M <sup>2</sup> COLOUR WEIGHT A3	